



An examination of dynamic ticket pricing and secondary market price determinants in Major League Baseball



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ABSTRACT

Over the past several years, professional sport organizations have started to shift from cost-based ticket pricing strategies to a demand-based focus, where price considerations are driven, in part, by market demand. Dynamic ticket pricing (DTP), where prices fluctuate daily based on market factors, evolved from this transition. The motivation for DTP stems from the significant growth of the secondary ticket market, where ticket prices are almost completely demand driven. One issue with this strategy is the limited understanding of specific factors that influence dynamically priced tickets and secondary market tickets. The current study examined price determinants in the primary market where DTP has been implemented and comparable tickets in the secondary market. Four regression models were developed for this purpose. The first two models examined factors influencing dynamic ticket price. Both DTP models were found to be significant, explaining 91.4% and 70.8% of the variance in dynamic price, respectively. The second two models examined factors influencing secondary market ticket price. Both secondary market models were found to be significant, explaining 82.7% and 79.7% of the variance in secondary market price, respectively. There were many consistencies between models, including an emphasis on team and individual performance factors, ticket-related factors, and time-related factors. However, there were a number of unique aspects to each model, which may help sport managers develop pricing strategies that better reflect market demand for sport

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Throughout the past 40 years, sport managers have taken two approaches to pricing sport event tickets. The classic approach maintained a fixed pricing structure where seat location was the sole determinant of price. This strategy focused on price as a function of organizational cost and sport event competition (Drayer, Shapiro, & Lee, 2012). Ticket prices were set months in advance of a season, with little or no opportunity to make adjustments based on consumer demand. On the other hand, the modern approach to pricing examines consumer demand based on a multitude of market conditions in an effort to optimally price tickets. The growth and legitimacy of the secondary market has created an environment that offers the consumer more purchase options. With the growth of e-commerce in the 21st century, ticket resale has become a multi-billion dollar industry. In the secondary market, prices are often set by the seller in an effort to maximize profit by determining buyers' willingness to pay for tickets. Previous research has provided evidence of numerous factors influencing

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ticket price in the primary market (Reese & Mittelstaedt, 2001; Rishé & Mondello, 2003, 2004) and secondary market (Drayer, Rascher, & McEvoy, 2012; Drayer & Shapiro, 2009). These factors affect consumer demand for the product and modern sport ticket prices can be adjusted based on this demand. It is clear from the literature that present day ticket prices for sporting events vary as a result of a wide variety of quantifiable factors.

Given that research supports the notion of fluctuating consumer demand, the nature of sport ticket pricing in the primary market has undergone two rapid transformations since 2000. Early in this millennium, teams began to experiment with variable ticket pricing (VTP) where they identified a certain number of “premium” games based on a variety of factors including opponent, day of the week, season, and rivalries (Rascher, McEvoy, Nagel, & Brown, 2007). Despite the success of this approach, organizations were still setting these prices well before the start of the season so there was no guarantee these prices would reflect actual consumer demand. In response to this limitation, sport organizations have begun to embrace dynamic ticket pricing (DTP).

As recently as 2010, the San Francisco Giants were the only team in professional sports to completely institute a dynamic pricing strategy, where ticket prices fluctuate daily based on changing market conditions. The Giants reported a 7% increase in revenue through DTP in 2010 (“Forty Under 40”, 2011), which provides evidence of additional revenue opportunities through optimal pricing of tickets. As of March 2013, 21 of the 30 teams in Major League Baseball (MLB) had implemented DTP in some form (Hendricks, 2013). Teams in the National Basketball Association (NBA) and National Hockey League (NHL) are also rapidly adopting this pricing strategy.

With the growth of DTP, research is needed to fully understand the factors that influence prices where this strategy has been implemented. Price setting in a demand-based environment is contingent upon understanding the variables that influence fluctuations in demand. Sellers must examine these price determinants to set prices that maximize profit. Previous research has examined organizational pricing determinants with traditionally priced tickets (Reese & Mittelstaedt, 2001; Rishé & Mondello, 2003, 2004). However, these investigations focused on ticket prices that were fixed prior to the beginning of a season. DTP operates in a real-time environment, which allows price changes to occur daily so they can better reflect constant changes in consumer demand (Mamudi, 2011). The literature on real-time pricing in sport is limited (Cui, Duenyas, & Sahin, 2012; Moe, Fader, & Kahn, 2011; Shapiro & Drayer, 2012). Only two studies have focused specifically on price determinants in this environment (Drayer, Rascher, et al., 2012; Drayer & Shapiro, 2009), which both examined secondary ticket market prices in the NFL. Empirical evidence of price determinants in real-time pricing environment such as DTP and the secondary market is scant.

Therefore, the purpose of this study was to examine MLB price determinants in the primary market using DTP and in the secondary market. By identifying the factors in the literature which traditionally influence ticket price, exploratory models examining the factors influencing dynamically priced tickets were developed. Further, as DTP was created, to some degree, in response to a prosperous secondary market where tickets have been dynamically priced for decades (Drayer & Shapiro, 2009, 2011), it is also necessary to understand similarities and differences of the pricing strategies of sellers in each market. An empirical investigation of the price determinants in each market provides ticket sellers a foundation with which to set prices. As sellers in both the primary and secondary markets continue to utilize demand-based strategies, a continued understanding of these factors is critical for revenue generation.

1. Review of literature

1.1. DTP in sport

DTP is a relatively new phenomenon within the context of sport. This real-time approach to pricing has been used in the hotel and airline industries under the label of revenue management. This concept is based on regular price changes in order to capitalize on high demand situations and to ensure sales when demand is low (Kimes, 1989a). A flexible approach to pricing allows organizations to price inventory to better reflect consumer value. Through implementation of this approach, organizations can separate consumers willing to pay more for a product or service under certain conditions from those who are price-sensitive. Revenue management is applicable in environments where there is a relatively fixed capacity and perishable inventory (Wirtz & Kimes, 2007). This strategy has been developed and researched in areas such as the airline industry (Belobaba, 1987, 1989), hotels (Choi & Mattila, 2004, 2005), restaurants (Heide, White, Gronhaug, & Ostream, 2008; Kimes & Robson, 2004; Kimes & Wirtz, 2002), theme parks (Heo & Lee, 2009), and golf courses (Kimes & Wirtz, 2003).

However, research on real-time pricing within spectator sport is limited due to the fact that initial implementation occurred in 2009 (Shapiro & Drayer, 2012). From a conceptual standpoint, DTP in sport appears to be a good fit. According to Drayer, Shapiro, et al. (2012), based on the revenue management criteria set forth by Kimes (1989a, 1989b), it appears that sporting events are an appropriate environment to implement a real-time pricing system. These criteria include a relatively fixed capacity, a perishable inventory sold in advance, the ability to segment a market, and fluctuating demand, all of which occur in the spectator sport industry.

Drayer, Shapiro, et al. (2012) also noted the importance of data management in pricing decisions. A DTP strategy allows organizations to assess consumer demand and market factors to price their event effectively. Additionally, the significant growth of the secondary ticket market has forced teams to revisit traditional pricing strategies in order to have the flexibility to keep their remaining inventory competitive with ticket resale platforms. These assessments are consistent with previous studies (Cui et al., 2012; Moe et al., 2011; Shapiro & Drayer, 2012)

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